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Feeding the Hungry Dragon: China Changes Buying Tactics in Volatile Phase of U.S. Grain Run

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Inside…

Key Points:

- Since mid-2020, China has purchased large quantities of U.S. grain due to accelerated feed demand, a strong currency, and less product being available for import from Brazil.
- China will remain an active buyer of U.S. grain through at least the 2021/22 marketing year based on steady pork production and higher slaughter rates.
- China's accelerated demand resulted in record high grain prices that peaked in May and have since been extremely volatile.
- CoBank sees this volatility continuing as China is now buying grain more opportunistically, i.e., on significant price weakness.
- The current grain run has entered a new phase. An elevated period of price volatility coupled with a continued inverted forward curve means that elevators and merchandisers will require capital discipline and excess liquidity.

Introduction

China shook up the U.S. feed grain export market this past year when it nearly tripled its previous year's purchase of soybeans, and made record purchases of sorghum and more recently, corn. The latter has defied expectations, both volumes acquired and the frequency of daily purchases, especially in May 2021. China's current appetite for U.S. feed grains is supported by:

- **Animal protein feed demand.** In 2020, China has ramped up purchases of soybeans and corn as it began rebuilding its hog herd following the African Swine Fever (ASF) decimation that started in 2018.
- **Compelling prices and greater purchasing power.** For much of 2020, U.S. feed grain prices were cheap in both absolute price terms and relative to local China prices (i.e., traded on the Dalian Commodity Exchange). The continued depreciation of the U.S. dollar (USD) relative to the yuan has enhanced the purchasing power of Chinese currency.[1]

- **Short-term issues in Brazil.** Brazil's late planting and harvest gave the U.S. an edge in continuing to supply soybeans to China through much of spring 2021, a period when China usually imports product from Latin America. This, combined with Brazil's reduced safrinha corn crop prospects due to drought, strengthens the U.S. position as China's leading grain import partner, at least for the current growing season.

While skyrocketing exports to China have been great news for U.S. crop farmers, agricultural cooperatives, shippers and distributors, the obvious question is how long will China continue buying large amounts of U.S. feed grain given current price levels? To answer this question, we identified and analyzed several variables critical to our outlook: current grain export activity, exchange rates, and China's protein production and consumption rates, along with a study of hog slaughter trends and projected pork and chicken production, among others. The swine sector carries the most weight in future feed grain demand, as pork is the largest single source of animal protein consumed by Chinese consumers and serves as an excellent proxy for soybean and corn demand.[2]

U.S./China Trade Agreement Progress Report

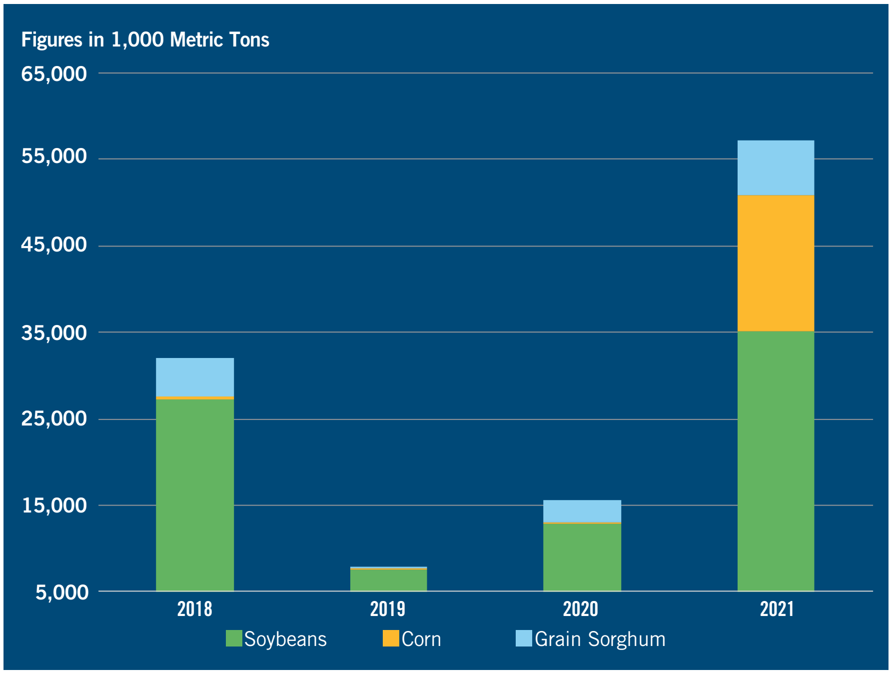
When the Phase One Agreement took effect on Feb. 14, 2020, China committed to purchasing $73.8 billion of total U.S. agricultural products – $33.4 billion in 2020 and $40.4 billion in 2021. China is still making good on a significant amount of its commitments, especially grain purchases. However, the cumulative "miss" versus targeted purchases of total agricultural products is widening. In 2020, total U.S. agricultural product exports totaled $27.3 billion or 82% of what China committed to purchase. As of April 30, 2021 (latest data available), the U.S. has exported $10.1 billion worth of total agricultural products to China – or roughly 80% of monthly target based on data compiled by the Peterson Institute for International Economics.[3]

Analysis of Critical Variables

Current Export Activity

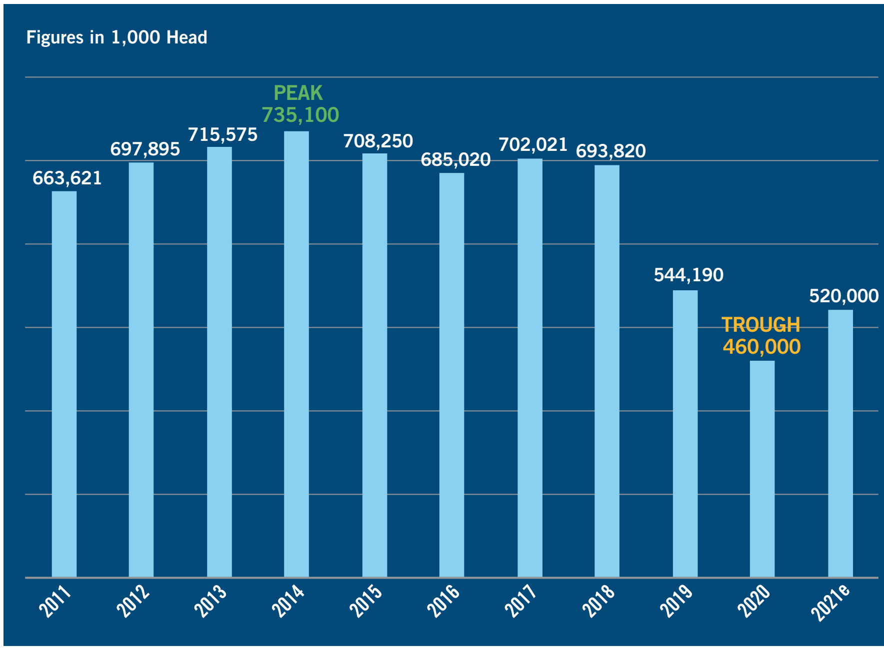
Year-to-date in 2021, the U.S. has physically exported a whopping 57.1 million metric tons (MMT) of soybeans, corn, and grain sorghum to China. This is a considerable increase over 15.5 MMT for the same period in 2020, and 7.9 MMT in 2019 *(Exhibit 1)*. Perhaps most notably, the 57.1 MMT figure in 2021 exceeds 32.0 MMT for the same period in 2018, a more comparable and normal year for feed demand and trade tariffs. Corn sales "booked" but not yet shipped to China were especially strong during May 2021 as China took advantage of its strong currency to boost state corn

EXHIBIT 1: Accumulated Exports of Selected U.S. Grain to China



Source: USDA Foreign Agricultural Service

EXHIBIT 2: China Hog Slaughter Trends: 2011 to 2021



As China's total hog slaughter has been on a roller coaster ride the past few years, USDA projects a climb to 520 million head in 2021 after the trough of 460 million last year. Since May 2020, China has aggressively purchased soybeans and corn as feed to rebuild its domestic swine population. We believe that hog slaughter rates will continue rising in 2022 through 2025, as FAPRI estimates 4.7% median growth in Chinese pork production and 3.8% in consumption in that period.

Source: USDA Production, Supply, and Distribution Database

reserves. The country is on track to reach aggressive trade estimates of 24 MMT to 26 MMT for the current marketing year (yet another record). Adding to the momentum, China has already contracted for 10.7 MMT of new crop corn and 3.0 MMT of soybeans to be delivered after harvest and recorded during 2021/22 crop marketing year. Barring cancellations, these orders lend confidence that that U.S. feed grain exports to China will continue to be strong during the next six months.

Exchange Rates

The Chinese yuan has strengthened relative to the U.S. dollar since May 2020, enhancing China's purchasing power, especially as U.S. grain prices neared their five-year lows in 2020. While the extremely favorable currency advantage enjoyed by China could shift over time, we would simply point out that it has been an additional tailwind for exports over the past year.

Protein Production and Consumption Trends

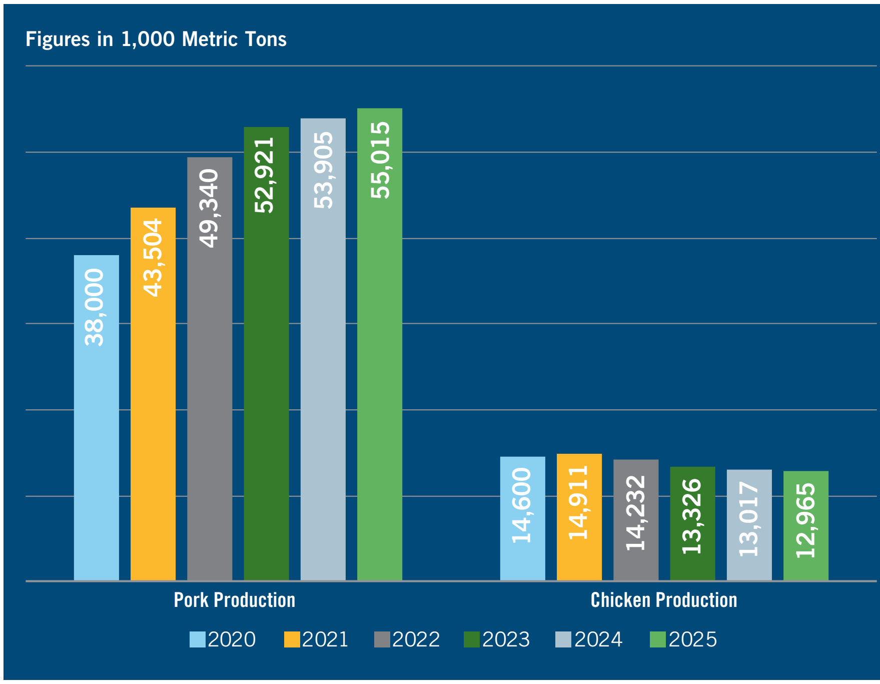
Per capita consumption of animal protein in China has nearly tripled in the past 40 years, and pork accounts for the majority of its animal protein consumption – 71% for the past 5 years. And because China imports most of its grain for use in pork production, the greater the demand for pork, the greater demand for feed grains. While hog slaughter (a useful measure of pork production) declined in 2019 and 2020 due to the emergence of ASF and COVID, slaughter is expected to increase meaningfully in 2021 *(Exhibit 2).* Looking towards 2025, pork production will grow while chicken (the second-largest protein component in Chinese diets and one that requires less grain) is expected to decline during this period, according to estimates by the University of Missouri Food & Agricultural Policy Research Institute (FAPRI) *(Exhibit 3).*

Outlook for U.S./China Grain Exports

Feed Grain Demand Should Remain Steady, With a Few Areas of Upside

Predicting with certainty whether China will purchase the same levels of U.S. soybeans, corn, and sorghum over the next year as it has done so over the past year is impossible. That said, we conclude that China will

EXHIBIT 3: Chinese Pork and Chicken Production Forecast



In contrast to its Chinese pork production rebound estimates, FAPRI expects chicken production (which requires less grain than pork to produce an equivalent pound of meat) to decline by a median annual rate of -3.4%. The former is a positive signal for continued purchases by China of corn and soybean for use in pig feed. Speculation that sorghum and wheat may be complete substitutes into animal feed rations seems unfounded, according to our channel checks.

Source: University of Missouri, FAPRI, April 2021

remain an active buyer of U.S. grain through at least the 2021/22 marketing year based on steady pork production, higher slaughter rates, and currency tailwinds. Two intriguing developments could improve the outlook:

- FAPRI now estimates China's 2021 slaughter rate at 630 million head, exceeding USDA's 520 million forecast. This 21% increase would require a similar bump in grain demand, assuming no changes in feed conversion levels.

- Longer term, the base level of structural demand for protein (and thus feed grains) could increase following a recent policy shift allowing Chinese families three children, up from the two-child policy enacted in 2016. We interpret the efforts by China's government to tame inflation as a signal to make larger families more affordable.[4]

EXHIBIT 4: Comparison of Current Spot and Futures Prices for Corn and Soybeans ($/bushel)

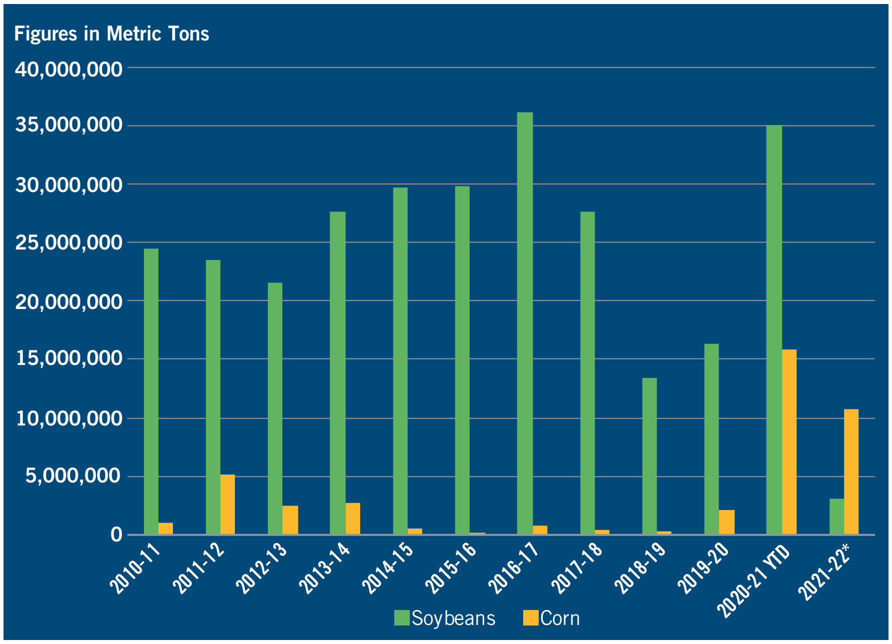
CORN		SOYBEANS	
Recent Cash Price	$6.78	Recent Cash Price	$13.95
July '21 Futures Price	$6.42	August '21 Futures Price	$13.31
September '21 Futures Price	$5.61	September '21 Futures Price	$12.87
December '21 Futures Price	$5.49	November '21 Futures Price	$12.82
December vs. Cash Price	**-$1.29**	**November vs. Cash Price**	**-$1.13**

Source: Barchart.com June 21, 2021

More Price Volatility Ahead

Futures prices remain inverted for both corn and soybeans, meaning that they are cheaper (and significantly so) compared to current cash prices, thereby creating a negative spread. As of June 21, 2021, the December '21 corn futures contract is trading $1.29 lower than the current cash price *(Exhibit 4).* A similar situation exists for soybeans, which has a

EXHIBIT 5: Accumulated Exports and Forward New Crop Commitments



Source: USDA Weekly Export Report as of June 10, 2021

*Denotes sales made to China for the 2021/22 crop year that will be shipped post-harvest

negative $1.13 spread between the November '21 contract and the current cash price. We would note however that the negative spread for both commodities has narrowed meaningfully over the past month resulting in slightly flatter versus inverted forward curves.

Two factors are behind the increased price volatility: the onslaught of mixed weather outlooks (scary drought conditions followed by new short-term tropical storm-driven rain and precipitation forecasts) and the unwinding of record net long ag commodity positions by non-commercial players, presumably in advance of expected Fed policy changes in 2023 to curb inflation.

The volatility has afforded China an opportunity to wait for price weakness before committing to additional grain purchases and also to contract now for the next marketing year. We have already witnessed two recent tangible examples of such "buy the dip" action:

- In May, China took advantage of lower post-harvest futures prices to buy 10.7 MMT of new crop U.S. corn for future delivery. This was a staggeringly large purchase, representing 67% of current marketing year-to-date U.S. corn exports to that country *(Exhibit 5).*
- On June 18, 2021, Chinese state-owned importers bought 480,000 metric tons of soybeans – the equivalent of eight cargo ships – following a decline of more than 7% in futures prices the day prior. This was China's largest U.S. soybean purchase in nearly 5 months.

Conclusions

Since mid-2020, China has purchased large quantities of U.S. grain – including record amounts of soybeans, corn, and grain sorghum – helping it satisfy 80%-82% of its purchase commitments under phase one of the U.S./China trade agreement. Several factors contributed to this explosive amount of grain buying activity by China: an acceleration in feed demand as the nation began rebuilding its hog herd post-ASF, currency strength relative to the U.S. dollar, and lower available grain supplies from Brazil.

The outlook for continued U.S. grain exports to China remains solid based on projected growth in pork production and slaughter and thus, steady demand for feed grains. However, the current grain run has entered a new phase. We are projecting a period of continued elevated price volatility, coupled with a continued inverted futures market, both of which increases capital requirements for grain merchandisers. Further, should farmers and grain cooperatives purchase hedges or enter into forward contracts, their capital needs will also increase, especially when markets rally. In that environment, their ability to earn adequate profits will depend on managing capital with discipline, assessing risk thoroughly, and maintaining excess liquidity.

References

[1] Over the past year, the U.S. Dollar / Chinese Yuan exchange rate has declined from 7.067 to 6.465, representing a decline of 8.5%.

[2] Pork as a percentage of total animal protein consumption in China has averaged 71% over the past five years, versus 18% for chicken and 11% for beef/veal.

[3] The Peterson Institute for International Economics. https://www.piie.com/research/piie-charts/us-china-phase-one-tracker-chinas-purchases-us-goods.

[4] BBC News, China Allows Three Children in Major Policy Shift, https://www.bbc.com/news/world-asia-china-57303592

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